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VALIDATION OF AN INVENTORY MEASURING ATTITUDES TOWARD INSTRUCTIONAL PRINCIPLES.

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THIS INVESTIGATION WAS CONCERNED WITH TEACHER COMPETENCE AND ITS RELATION TO TEACHER PREPARATION AND THE VALUE OF ATTITUDINAL MEASURES AS PREDICTORS OF TEACHING BEHAVIOR. THE RELATIONSHIP BETWEEN PROSPECTIVE TEACHERS' SCORES ON AN ADDITIONAL INVENTORY CONCERNING INSTRUCTIONAL PROCEDURES AND THEIR INSTRUCTIONAL BEHAVIOR IN A CONTRIVED INSTRUCTIONAL ENVIRONMENT WAS TESTED BY THE INSTRUCTIONAL PROCEDURES PREFERENCE INVENTORY (IPPI). IN THE FORMAL VALIDATION STUDY A POSITIVE RELATIONSHIP WAS DETECTED BETWEEN PERSPECTIVE STUDENTS' SCORES ON THE IPPI AND THEIR SUBSEQUENT USE OF INSTRUCTIONAL PRINCIPLES. THE GENERAL CONCLUSIONS WERE THAT (1) CERTAIN PROCEDURAL ELEMENTS OF THE PRESENT STUDY MAY BE OF VALUE TO OTHER INVESTIGATORS AND (2) SUCH ATTITUDINAL MEASURES AS THE IPPI IN PREDICTING TEACHER BEHAVIOR MAY BE USEFUL. (GD)

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Cooperative Research Project No. S-069

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INTRODUCTION

The teacher educator is faced with the inordinately complex task of attempting to alter, in a relatively few number of course units, certain aspects of the prospective teacher's knowledge, attitudes, and skills which will hopefully lead to improved instructional behavior. Yet, some educators who have given this problem serious consideration admit that teacher education courses are typically focused on those teacher characteristics which will play only a minor role in determining how the candidate will actually teach. For example, teacher preparation programs often aim at transmitting factual information to the prospective teacher (Tyler, 1963), at the expense of seeking to modify his attitudinal sets toward such important matters as instructional procedures, pupil-teacher relations, professional ethics, etc.

It is undoubtedly true that many of the important determinants of instructional behavior, for instance, intelligence and basic personality factors, lie beyond the scope of the teacher educator's influence. However, there may be additional significant predictors of instructional behavior which are amenable to modification during a teacher education sequence. The investigation to be described herein was designed to explore the value of an attitudinal measure in predicting specific types of instructional behavior. In this instance the attitude dimension being measured was supposedly modified during a pre-service professional education course.

Since the investigation concerns both the more general question of teacher competence and its relation to teacher preparation, as well as the value of attitudinal measures as predictors of teaching behavior, a review of relevant research will be offered before describing the investigation itself.

RELEVANT RESEARCH

In the field of education, the search for the good teacher has had a long, if unproductive, history. The effective teacher must be identified for a variety of reasons. Administrators desire to know which of their staff is doing an adequate job for tenure and salary increase purposes. More importantly, teacher education programs throughout our colleges and universities have one of the most gnawing necessities for discovering what constitutes the good teacher, so teachers may be selected and prepared to this end.

Description of Teacher Behavior

Early researchers in the field of education recognized the difficulty of measuring as gross a characteristic as "good teacher." N. M. Senska (1923) suggested certain categories of teacher qualities which might help one judge whether a given teacher was effective. This "score card" included characteristics such as character, scholarship, teaching skills, discipline, attitude, interest in pupil activity, classroom management, personality, and health. The supervisor was to rate the teacher on each characteristic according to a three point scale. While it is clear that such a measuring instrument would result in almost totally subjective evaluations and the categories themselves are so broad as to be almost undefinable, the "score card" approach presaged later more elaborate and defensible classifications of teacher qualities. Senska's categories seem products of an *a priori* classification of what would comprise the ideal teacher. More sophisticated ideas in developing a rating scale were to come later.

One attempt by Anderson and Brewer (1948) sought to describe the behavior of the teacher indirectly by observing the responses made by the students in the classroom. Although the teacher behavior thus inferred was primarily concerned

with the emotional climate of the classroom, and with the somewhat probable explanation that other stimuli might be producing the student responses observed, this study provided some impetus toward a combined observation of teacher-student relationship instead of merely describing the characteristics of a particular teacher without considering his interaction with his pupils. Wrightstone (1960) elaborated on this type of endeavor when he developed an observation form based on actually recorded behavior of teachers in 12 classes in elementary schools. The categories on the developed form consisted of: 1) pupils contribution; 2) encouraging pupil contribution; 3) proposing thesis; 4) referring to sources; 5) suggesting means; 6) discouraging contribution; 7) recalling attention; 8) assigning task; 9) question-answer. It is evident that this form records both the behavior of the teacher and his pupils.

Thelen and others (1951) summarized a series of studies dealing with classroom atmosphere. Perhaps the most relevant of these regards rating the teacher's verbal behavior. Thelen's article reports that Withall developed a "climate scale" which ranked the relative warmth of the teacher's statement rather than the specific results of his behavior. McNeil and Gordon (1959) also described teacher behavior in terms of warmth, authority, and task-approach that the combination of these in the classroom was related to improved learning. Withall (1960) reviewed the literature in 1960 concerning observing and recording behavior and stated that it seemed to be most important to define operationally the behavior of teachers. One observation form developed by Medley and Mitzel (1958), OsCar, provides a way to rate teacher behavior in a complex fashion, employing various subscales which describes teacher's behavior in detail. The OsCar procedure has been widely used and heralded the important notion of specificity of observation.

Another technique which has commanded considerable interest was reported by Amidon (1963), Evans (1963), and Flanders and Amidon (1963). This technique of recording teacher behavior was designed primarily for self-study of classroom behavior by teachers. The teacher's interaction with pupils is analyzed according to the three generalized areas: Teacher Talk, Student Talk, Silence or Confusion. Ten specific behaviors are included in these categories which are divided as follows: Indirect Teacher Behavior: 1) acceptance of feeling; 2) praise or encouragement; 3) accepting ideas; 4) asking questions; Direct Teacher Behavior; 5) lecture; 6) giving directions; 7) criticizing or justifying authority; Student Talk: 8) student talk, response; 9) student talk, initiation; 10) Silence or Confusion. Every three seconds the observer makes a mark in a cell of a 10 by 10 matrix of these categories. While the purpose of this elaborate observation is to help the teacher correct certain behaviors, this technique seems to have value in the specification of what actually occurs in the classroom. Cogan (1963) also used a similar technique in describing teacher interaction, using three second observation but relating the observation to the learning goals the teacher professed. Siebel (1955) developed a form upon which to evaluate teacher behavior consisting of the following categories: 1) use of praise or reward; 2) offering encouragement and support; 3) affectional physical contact with pupils; 4) movement about the classroom; 5) non-instructional service to pupils; 6) compliance with suggestions by pupils; 7) solicitation of suggestions; 8) use of humor. Ratings on this form were to be by supervising teacher, observers from the School of Education and the student teachers themselves.

Perhaps the most ambitious effort in developing an instrument to describe teacher behavior was reported in Ryans' Characteristics of Teachers (1960). Ryan developed observation scales and subscales which measured a wide range of teacher behavior, including the psychosocial atmosphere, stimuli to learning, and frequency of various statement patterns. Ryans (1963) summarizes the salient

features of describing leadership and specifically relates the problem of describing teacher behavior to teacher preparation programs when he says:

> Progress is being made in understanding of the methodology studying teacher behavior. Novel and reliable methods for direct observation are being developed in several centers throughout the country. . .a considerable number of reliable and valid instruments are becoming available for the estimation of certain teacher charachteristics. These instruments are directed at various aspects of the teaching-learning process, including certain teacher classroom behavior patterns and also teacher-pupil interaction in the classroom. Such methodological advances have important implications both for the graduate curriculum of teacher education institutions and the research conducted in teacher education.

Predictive Studies

Accurately describing teacher behavior is not just an academic endeavor. It has always been attempted with the ultimate goal of finding a way to evaluate the worth of the teacher's actions in promoting learning. Early in the development of teacher education, some researchers placed more emphasis on predicting the teacher who would receive an "effective" rating by their superiors. It was the hope that certain cirricular predictors of future teaching success could be found and that the discovery of these would immeasurably contribute to the nature of the teacher education sequence. It is important to observe the distinction between studies which described teacher behavior at varying levels of precision, and studies which attempted to predict from given factors the effective teacher. For the most part the "predictor" studies focused on clearly specifying the nature of the predictor while the dependent variable, the "goodness" of teaching was left largely to subjective administrator judgment. Note that only recently has the predicted behavior of the teacher been rigorously defined. As early as 1922, F. B. Knight (1922) compared the combined rating of teaching efficiency composed of evaluations by supervisors, fellow teachers and pupils with the teacher's score on a trade test. Although $\underline{r} = .61$, reference to the study is made here not because of the overwhelming evidence it presents, but rather as an indicator of the general direction of thought concerning teacher education. Although those who favor the rigorous description of teacher behavior in the Ryans fashion would scorn at such subjective measures of effectiveness, this method may have had merit merely because such ill-defined measures were the only extant basis of teacher evaluation.

Many studies subsequently followed Knight's essential procedures. One experiment of considerable relevance was performed by Zant (1928) at South East State Teachers College, Durant, Oklahoma, where the grade received in a general methods course was correlated with success in student teaching measured by student teaching grade. With 200 subjects, the correlation between grades in methods course and student teaching grade equalled .32. Similar studies relating grades in education methods courses and student teacher grade were reported in Morsh and Wilder's review (1954). Mean and Hollsy in 1916 found that with 40 student teachers the correlation between education methods and student teaching grade was .57. Using 116 subjects Ulman in 1930 reported a correlation of .46 between the same variables. Hult in 1945 found that the grades for his 100 subjects correlated at .51. Course marks of 34 subjects in a study conducted by Schwartz in 1950 exhibited an $\underline{r}$ of .56, while Bach in 1952 found that grade in methods and student teaching correlated at .19 with his 76 subjects.

Where the criterion was supervisor rating rather than practice teaching grade, more evidence is found to support the value of education courses in preparing teachers. Harriott (1929) had experienced supervisors rate 232 undergraduate students before and after they had been enrolled in an education course. Results showed that correlations between teacher's professional information and supervisor's rating increased from .38 to .67 after taking the education course.

Morsh and Wilder's review also summarized relationships between achievement in education courses and supervisor or administrator ratings. Ulman in 1930 correlated the rating of 116 high school teachers received from administrators with their marks in education courses (r = .30). Using the same variables in 1931, Bossing found that with his sample of 100 high school teachers the correlation was only .19. Broom and Ault with a group of 81 high school teachers in 1932 reported a correlation of .24 between their education course work grades and administrator ratings. Kriner in 1937 noted that a .40 correlation existed between the education grades and supervisor ratings of 42 high school teachers, and Jones (1946) also recorded a .40 relationship for 50 high school teachers, using principals' ratings and education course grades. In Wisconsin, Lins (1946) reported a .27 relationship between education course work grade point average and five supervisory ratings (N=58).

Other attempts to discover predictors for the effective teacher included Dalton's study (1957) using pupil responses to a 10 item profile questionnaire with 252 subjects in which the group with the higher mean hours of education methods preparation achieved higher profile ratings ($p < .01$). A. S. Barr (1935), a prolific researcher, used predictions of teaching success which included a variety of tests such as intelligence, aptitude, vocational interest tests and correlations between these measures. While Barr's work was extensive and highly respected, its relevance in this review is mostly confined to that of a generator of research hypotheses in the predictive realm. A somewhat different approach was taken by Olmeg and Sorenson (1930) in which the 20 characteristics most frequently mentioned by administrators to characterize the effective teacher were collated into an instrument with a five point scale for each characteristic. One-hundred ten practice teachers were rated on this form and correlation between this rating and academic grades was .45 while relationship between practice teaching grade and score on this instrument was .69. The use of the personal data form as a predictor of success has been reported by Cook (1963) at Purdue. In this case, success meant completing the teacher education program and entering the teaching profession. Using 1,300 subjects, certain categories such as sex and teaching major proved to be significant predictors.

Other studies have tried to gauge the effect of education courses in preparing the successful teacher. The Florida Study of Teacher Education (1958) reported that 14 per cent of the 1,432 teachers queried reported that their education courses helped them most in their teaching. Pisaro (1959) noted that the significant variables in the dismissal of 71 Indiana teachers were the lack of professional training in education courses and experience. Henry (1963) found that when 344 teachers and student teachers were presented with a questionnaire concerning the most difficult aspect of teaching, those subjects who did not complete methods course differed significantly from those who had satisfied this requirement on the following four "difficulties": a) difficulty in adjusting content presentation to students' level; b) lack of dynamic qualities of personality in classroom; c) difficulty in planning; d) difficulty in selection and organization of materials.

To this point, it should be clear that most of the predictors employed in these studies were of a very general nature. For example, the grades received

in education courses seem to bear some relationship to teaching ability, but since the content of these courses is not specified, there appears to be little generalizability from these studies. Nor is direction given toward any valid teacher education program to prepare the good teacher. In fact, many studies take no cognizance of the course work which teacher preparation institutions can offer, but prefer to make predictions based upon variables over which the institution has no control. Levin and others (1957) summarized studies by Cogan, Siebel which attempted to predict various aspects of teacher behavior, and in these studies no measure of educational knowledge was included. It appears that the provision of specific predictors has been generally ignored.

It is at this juncture where it is necessary to merge the work of the research cited in the first portion of this review, namely, the development of measures of specific teacher behavior and the search for predictors of such behaviors. Berry (1960), using Ryans' Teacher Characteristic Schedule , added Subscore M (use of Appropriate or Inappropriate teaching technique) which consisted of the following six classifications: 1) helps pupils develop understanding, knowledge and skill; 2) sensitivity to individual differences; 3) good discipline; 4) efficient study habits; 5) healthful classroom; 6) variety of instruction materials. Differences between provisionally accredited (lacking education courses) and fully accredited teachers were significant at the .05 level. Bicknel (1959) also developed a more specific form to rate the effectiveness of teachers. Their performance as recorded on observer's report, Form M, was correlated with their supervisors rating of effectiveness after one year. Although their results were mixed and inconclusive, the specificity of Form M deserves some attention. Teachers were to be rated on the basis of the following questions: 1) extent of pupil participation; 2) closely bound to the textbook; 3) did it (the lesson) tie in at every possible point with the pupils everyday lives and with the community in which they live; 4) did the pupils seem aware of the relationship of the subject being studied to their everyday lives.

Very few studies have specified the predictors rigorously. As summarized above, the most frequently employed are grade in education courses, the nature and content of which are ignored, or personality and environmental characteristics of the teacher candidate, qualities over which the teacher education sequence has little control. One study which attempted to use specific beliefs of teachers and relate them to the way they perform in the classroom was conducted by Oliver (1953). He identified teachers who gave positive ratings to the following four statements: 1) Good teaching recognizes and provides for individual differences; 2) Human growth and development is a continuous process; 3) Real learning is based on experiencing; 4) Learning proceeds best when related to the interests and experiences of the learner. Teachers were subsequently observed according to their implementation of the above beliefs in the classroom, and with 119 subjects, $\underline{r}$ = .31. Clearly there are problems in the above scheme. First of all, such platitudinous statements would engender little antagonism from anyone. Secondly, the difficulty of deciding what classroom behavior adequately reflects that "Human growth is a continuous process" might be unresolvable. But again it is the direction of the study rather than the specific finding which deserve comment. Oliver has attempted to isolate discrete beliefs on the teacher and see the extent to which these beliefs are implemented in the classroom.

Observing Teacher Behavior

The problem of discovering if the specific knowledge gained in education courses resulted in recognizable effects on the teaching of the students who successfully completed the courses was, up to very recently, impossible to investigate. This condition was so because the substance of the education courses was

ill defined and the specific competencies which a successful student would have after taking the course were indescribable. With the advent of auto-instructional materials and the concommitant emphasis on behavioral specificity of instructional goals (See Mager, 1962), the nature of many education courses is changing. When the objectives of a course are stated in terms of student's behavior, it becomes methodologically easier to study the relationship between these behavioral competencies and teacher behavior in the classroom.

Popham (in press) studied the question of specific effects of a course in curriculum and instruction. Trained observers recorded the behavior of 50 student teachers according to the following scheme. Seven dimensions were listed on the observation form: behavioral objective, active response, appropriate practice, individual differentiation, perceived purpose, graduated sequence and knowledge of results. Each of these principles were previously explained in detail and examples of behavior which would reflect their use were given to the observers. The observers checked one of three categories for each of the seven dimensions deciding whether the teacher was clearly using, might be using, or was clearly not using the principle. The observation consisted of a full class period, and student teachers received only one mark per category during the entire time of the observation. Results showed that the 22 students who had received instruction in a curriculum and instruction course which emphasized the seven dimensions observed had used these principles significantly more in the classroom than 28 students who had been enrolled in a curriculum and instruction course of a different type. The gross nature of the observations in this study can be criticized in that a teacher who used a given principle once during the class period received the same rating as a teacher who may have used the principle repeatedly. However, this is a clear instance of an investigation between specific aspects of course objectives and the subsequent classroom behavior relevant to these specified aspects. The investigation described in this report was designed to study this same general relationship.

The necessity for observing the behavior of the teacher is obvious if we are to be able to make any remarks concerning the effects of particular courses in education on this behavior. The problem of how to observe the teacher most accurately must be considered. The usual procedure has been for a team of trained observers to enter the classroom using a complex recording form such as advocated by Medley and Mitzel, Flanders, or Ryans, or the more simple variety employed by Popham in his study. Ryans (1957) has noted

> Probably the most satisfactory approach to the direct measurement of criterion behavior is through the use of observers who are trained to observe selectively specified criterion elements and to record immediately assessments thereof.

These observers remain in the classroom as unobtrusively as possible and record those actions of the teacher in which they are interested. Yet, the possibility that the very presence of the observers modifies the way the teacher normally behaves must occur to everyone. Perhaps the teacher is threatened by other adults invading his domain; perhaps he will respond more to what he thinks the observers are watching than to his students.

Instrumentation

One possible way to avoid the observer's effect upon the learning situation is to employ artificial instrumentation. Through the use of closed-circuit television, it seems reasonable that a teacher could be observed without his necessarily responding to the observers. Rench (1961) points out, however, that the "obvious limitation here (in TV) is the artificial learning situation and

the uncomfortable conditions under which children and teachers work." However, she qualified her statement by adding that "on closed circuit television the learning situation has proved to be no more artificial than any demonstration class with a large group of observers." In a publication of the Department of Audio-Visual Instruction, NEA (1958) a different viewpoint is taken:

> There are. . . some problems connected with the use of television for classroom observation. Audio pickup in a classroom is often difficult and sometimes the camera does not focus on the activity which is most interesting to the observer. Technicians and the mechanical paraphernalia of cameras and lights may tend to intrude on the naturalness of the learning situations. In order to garner the advantage of 'unnoticed' observation, means must be found to minimize disruptive effects.

If outside observers may cause atypical behavior by the observed teacher and television observation presents technical problems, what are the other methods which can be used reliably to obtain information about a teacher's behavior? Of course, the one-way mirror as a surreptitious observational implement has lost most of its magic, for many teaching candidates have sufficient sophistication to recognize that the purpose of mirrors in the classroom is more than just to provide a Versailles-like opulence to the learning setting.

Pupil Evaluation

The use of students to make judgments about teacher behavior is not unusual. It is often found in combination with supervisory ratings and observer reports in a number of studies. Boardman (1928) used as his criterion the average rank of teachers based upon judgments of supervisors, associate teachers and pupils. Brookover (1940) measured interaction between teachers and pupils using pupil ratings in conjunction with administrator judgments. Also typical are those instances when the students are required to "evaluate" the teacher and their evaluation is the only criterion employed in the study. Wilson (1929) had students at the college level rate the instructor after the end of the course to see if it could be done. Other types of pupil evaluations center upon the qualities of the best-liked and least-liked teacher. Bousfield's study (1940) using 568 college undergraduates is an example of many of this nature. Bryan (1938) applied pupil evaluation as the criterion in a study conducted in secondary school. Categories, however, seemed vague and students had to rate teachers according to their knowledge of subject matter, ability to explain clearly, fairness, discipline interest, general teaching ability, among others. It is evident that such evaluations provide little real information concerning how the teacher behaves in the classroom. Porter (1942) used pupil evaluations of practice teaching which were compared with administrator evaluations. Aspects studied were not well defined, consisting of areas such as appearance, personal qualities, professional manner, teaching methods and command of subject. Pupil evaluations were completed at the end of a unit and results showed that the pupils and supervisors tended to agree in their estimates of a teacher's effectiveness.

The use of pupil evaluators has generally been tied to one particular method of study, that is, the pupils evaluate the instructor after the instructional sequence is completed. This, of course, differs greatly from the role of the usual observer who records teacher behavior as it occurs. One investigation, however, did employ pupils to study the behavior of the teacher during the learning situation. In an attempt to determine whether teachers would choose a certain method of instruction based upon their students achievement or their students positive or negative reaction to the method, Keislar and McNeil (1959)

trained sixth grade students to role play while the instruction was proceeding. About the efficiency of using pupils in this capacity during instructional situations, Keislar and McNeil say:

> It would appear that pupil accomplices can be effectively used in establishing experimental conditions for the study of teacher behavior. The technique has merit as a research tool, making possible realistic but controlled classroom conditions.

The experiment described above using pupils in an experimental condition to interact with the teacher in a prescribed manner is largely the methodological basis for this study. However, in the research to be described pupil accomplices were used as surreptitious observers of teacher behavior and recorded specific, selected aspects of teacher action.

Self-Reports

One final method of getting an estimate of teacher behavior has yet to be treated in this review. What can be the merits of using the self-report, the teacher's own evaluation of his teaching? Ryans (1957) notes:

> Self-reports may provide valid and reliable criteria data provided . . . (they) are based upon behavior that has been clearly and operationally defined--which takes place under relatively rigidly defined conditions.

Numerous self-report forms and methods have been suggested. Selakovich (1961) at West Texas State College had students develop lists of principles of effective teaching and then rate themselves according to these principles. H.F.A. Smith (1958) suggested a form which emphasized the teacher's self-analysis of this instruction. The question which immediately arises in connection with self-reports is how to validate their accuracy.

DeJung (1959) has conducted a study on self-role perception and concludes that neither chronological nor mental age of subject is correlated with accuracy of self-role perception. Probably the most active component of the self-report concerns the social environment in which it was made. Gage and Cronbach (1955) note the considerable problem of accurately measuring perception in a particular environment. Melgrem and Helper (1961) conducted a study which tried to determine the importance of social desirability in individual ratings. Using 80 premedical students, half the subjects were given an inventory and told to rate themselves according to a personality scale. The other group first was shown how physicians rated on this personality scale, and then were asked to rate themselves. The second group ranked themselves significantly higher than the first group. This would indicate that the social desirability of the physician's personality ranking indeed had a measurable effect on the student's ranking. This would lead one to question the validity of self-reports when the reinforcer for a high rating might be salary increase or promotion.

Attitudinal Predictors

The research on attitudinal predictors of teacher behavior has been focused almost exclusively during recent years on the Minnesota Teacher Attitude Inventory (MTAI). For example, Popham and Trimble (1960) tested the ability of the MTAI to differentiate between teachers rated successful and unsuccessful by administrative superiors, and reported that the inventory did differentiate at the .01 level. More recently, Wilk and Edson (1963) reported using the MTAI to successfully predict observed "need integration" behavior among student teachers.

However, these are but two of literally a host of research reports on the

MTAI. It is important to note, as did Durflinger (1963) in a recent review: "The MTAI measures only a limited number of teacher attitudes. There is a need for new instruments to furnish information about other attitudes." The present investigation was designed to explore a validation procedure for such a newly designed attitudinal inventory.

Summary

Obviously, each of the major procedures for measuring teacher behavior has special problems. The training of classroom observers of the usual breed must be done in detail and is time-consuming. Instrumentation of the observing process is both expensive and technologically impossible in many learning situations. The use of pupil evaluations after a long period of instruction has defined limitations. The total reliance on self-report measures seems, for various reasons, foolhardy. Consequently, the use of pupils to serve as accomplices under experimental conditions may be fruitful. All of these procedures, if they are to be effective, require rigorous definition of the aspects of teacher behavior to be observed.

OBJECTIVES

The primary objective of this investigation was to test the relationship between prospective teachers' scores on an attitudinal inventory concerning instructional procedures and their instructional behavior in a contrived instructional environment. In this same vein, interrelationships were assessed between the aforementioned variables and subjects' performance on a test of knowledge concerning instructional procedures. A final objective of the proposed study was to seek additional evidence regarding the suitability of using pupil accomplices in the conduct of educational research.

The general approach to the above objectives involved an attempt to validate a newly developed attitude inventory, the Instructional Procedures Preference Inventory (IPPI), which was designed to measure a teacher's attitude toward certain aspects of the instructional process. The criterion behavior was designated as a subject's behavior in a contrived teaching situation where he was free to vary his instructional techniques.

THE PILOT STUDY

Prior to conduct of the formal validation investigation a rather elaborate pilot study[1] was carried out during the 1964 spring semester. As will be seen in subsequent paragraphs, several major methodological flaws were detected in the pilot project which were then corrected in the actual validation study. Since many procedural aspects of the pilot study were retained, however, it will be described somewhat fully.

In the pilot study elementary school age pupils were trained to judge whether a student-teacher was using any of five instructional principles during a brief spelling lesson. Subjects were prospective student teaching candidates enrolled in a required curriculum and instruction course. The subjects, who were informed they were serving as part of a control group for a programmed instruction experiment, taught three five-minute spelling lessons, one student at a time, to these previously trained pupil accomplices. After each of the three lessons, the pupil-accomplices surreptitiously rated the student-teacher's use of the instructional principles. Previously, subjects had been administered a

[1]The pilot study is described elsewhere in considerable detail by Baker (1965).

newly developed attitude inventory, the Instructional Procedures Preference Inventory (IPPI) as well as a test of professional knowledge. Both of the latter measures pertained to the same five instructional principles which the pupil-accomplices had been trained to identify. The principal research hypothesis to be tested was that there would be a positive correlation between subjects scores on the IPPI and their observed use of the five instructional principles.

Subjects

Subjects for the pilot study were 64 students enrolled in a required secondary curriculum and instruction course offered in the Department of Education, University of California, Los Angeles during the spring semester of 1964. Encouragement was given to subjects to participate in the project to gain teaching experience, since most planned to begin their practice teaching assignment in the following semester. All subjects were seniors and graduate students.

Pupil-Accomplices

Eleven pupils at the sixth grade level were used as pupil-accomplices in the pilot project. These pupils were enrolled at the University Elementary School at the University of California, Los Angeles. The pupils were selected by the school staff on the assumption that they would be both cooperative and conscientious. The four boys and seven girls ranged in age from 10 years 6 months to 12 years 1 month. The group attained Stanford Benet I.Q. scores between 107 and 131 ($\bar{X}$ = 118.8) and language index scores on the California achievement Test, Elementary Form X, between 6.4 and 9.10 ($\bar{X}$ = 7.5).

Pupil-Accomplice Training

Since the pupil-accomplices would be using a check form to make the teacher's use or omission of the instructional principles during the actual study, the staff attempted to simulate the experimental conditions during the training session. To this end, a form was especially prepared which included the reworded descriptions of the instructional principles in language which might be more easily understood by the pupils. Below is a list of the instructional principles and their descriptions. In conjunction with each is the corresponding question which appeared on the pupil-accomplice form.

Preassessment: the entry competencies of the student are tested prior to initiation of the instruction.

"At the beginning of the five minute period, did the teacher pre-test you to find out if you could already spell any of the words?"

Perceived Purpose: the teacher attempts to promote the student's understanding of the value of the learning activity.

"Did the teacher explain the importance of good spelling to you?"

Active Response: the student is encouraged to make an intellectual, physical, or emotional response as direct result of teacher action.

"Did the teacher have you do things actively before the blue-paper[2] test? (For example, speak or write?)"

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[2]Blue-paper was used on the post-test to help the pupils differentiate instructional from evaluative procedures.

Appropriate Practice: the student is given a chance to practice the behavior implied by the objective.

> "Other than the pre-test, did the teacher give you a chance to write the spelling words without looking before he gave you the blue-paper test?"

Knowledge of Results: the teacher informs the student regarding the appropriateness of his response.

> "Did the teacher tell you whether your oral or written answers were right or wrong before he gave you the blue-paper test?"

Since the actual experiment would be limited to the teaching of spelling words, practice lessons were prepared using spelling words taken from the difficult word list in standard spellers.[3] These lessons reflected various probable combinations of the instructional behaviors which the pupils might encounter during the investigation. For example, each card consisted of the initials of one or more principles which the staff member attempted to employ, such as AR (active response), KR (knowledge of results) and PP (perceived purpose). Twenty different training cards were prepared for use during the pupil-accomplice training session.

On the day before the pupil-accomplice training was to begin, two of the pupils were instructed for a half hour under the supervision of the project staff and the principal of the University Elementary School. This trial session was held in order to ascertain the effectiveness of the training plan previously devised, and both pupils performed well.

On the following day, members of the project staff met with all the pupils for a two hour training session. Pupils were introduced to the form, each principle was briefly described and appropriate examples given. One of the staff members assumed the role of a teacher, and using the above mentioned training cards, taught different spelling lessons which incorporated the deliberate use of certain of the instructional principles. One pupil at a time was taught by this teacher while the other ten children observed the lesson. All pupils completed an observation form for each lesson. At first, the pupils were permitted to mark their form immediately after the use of the principle occurred during the lesson. Another staff member, at the conclusion of each lesson, read the questions from the observation form aloud and the pupils indicated the way in which they had marked each question. When an error was made, the staff member reiterated the correct answer, suggested ways to avoid making the particular mistake, and answered any questions raised by the pupils. During subsequent practice spelling lessons with different persons acting as teacher, the pupils were required to wait until after the lesson was concluded before marking their forms. Correction or confirmation of the pupils' responses was always immediately provided after the pupils had completed their forms. Finally, the pupils were required to keep their forms out of sight during the spelling lesson, delay a moment or two, and then mark the teacher's use of the principles, all in an effort to approximate experimental conditions. The training session was terminated after two hours. The following day, day one of the study, the students met with a staff member for a refresher half hour of training. During this time,

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[3] Hanna, Jean S. and Paul R. Building Spelling Power Grade 7, Houghton-Miflin Company, Boston, 1960, and Success in Spelling 8, World Book Company, Yonkers-on-Hudson, New York, 1955.

pupil performance was excellent and their responses to practice spelling situations were in total agreement and correct.

Subject Acquisition

Shortly before the pilot study, a sign-up sheet was circulated in the curriculum and instruction course. The instructor briefly described an experiment (ostensibly conducted by a colleague) contrasting the use of programmed instruction with conventional live-teacher instruction in spelling. Students were asked to sign up for one half hour period in order to act as a member of the "control" group for this supposed experiment. At this time the subject was given instructions which stated that he would be required to teach three different students five difficult spelling words in a short period of time. The subjects were also told that there would be no observer present to watch their lessons and that they might use any instructional technique desired. Included in the instructions was the assertion that the teaching machine manufacturer insisted that no human teacher could ever match the performance of his teaching machines. In order to secure a sufficient number of subjects, extra credit points were given. Sixty-four subjects signed up.

Procedure

On the first day of the pilot study, subjects were given an additional instruction form which contained three sets of five spelling words to be taught, one set per lesson. Subjects were told that they would have four minutes 30 seconds in which to teach, at which time an attendant would knock on the door of their room. The subject was instructed that, upon hearing the signal, he should begin to administer the post-test on the blue paper supplied. This procedure would be repeated until the subject had taught three pupils. Subjects were directed to a room to which the first pupil was stationed. At the conclusion of the lesson, the pupil was taken from the room, handed a booklet which consisted of the pupil observer forms and given a moment to mark the preceding subject's use of the instructional principles. As soon as the pupil-accomplice had recorded his observation, he was rotated to another room and subject, and the process was repeated. At the conclusion of the third teaching situation, the subjects were directed to the teachers' lounge while the pupil-accomplices remained in the teaching rooms and recorded their observations of the last teacher. After approximately five minutes of rest, a new subject entered each room and the rotation sequence began again. In order to avoid their excessive fatigue, the pupil accomplices were divided into two groups and each alternately participated in the project and rested an hour.

After teaching their last pupil, subjects were directed to the teachers' lounge where they encountered the teaching assistant for the curriculum and instruction course. They were engaged in conversation and encouraged to comment about their teaching experience in order for the staff to discover any recurring difficulties which could be overcome. Subjects were detained in the lounge for a period long enough to allow the pupil-accomplices to record their observation and for the staff members to conduct the next set of subjects to their appropriate rooms (approximately ten minutes). This was to obviate the possibility that subjects who had completed participating would interact with the new set of subjects. There were nine groups of subjects on the first day of the experiment and three groups of subjects in the afternoon of the second day, so that the experiment was completed within six hours.

At a subsequent class meeting of the curriculum and instruction course, in

conjunction with evaluating some of the activities in which all students participated, those who had been involved in the "programmed instruction" project were asked to list the purposes of the experiment that occurred to them during or after their participation in order to determine if the subjects were aware of the real function of the pupils in the experiment.

Measures

Three principal measures were used in the pilot study, i.e., subjects' (1) observed use of the five instructional principles, (2) scores on the Instructional Procedures Preference Inventory, and (3) scores on a test reflecting knowledge of the five instructional principles.

To indicate the degree to which each subject used the principles, the three pupil observation forms for each subject were collated and the total number of "yes" check marks was calculated.

Two weeks before the pupil-accomplice phase of the investigation was conducted, subjects were administered two measuring instruments. The first of these was Experimental Form I of the IPPI. This instrument (the most recent version of which is found in the Appendix) consisted of a series of ten brief problems, each of which was followed by four possible solutions. The problems were hypothetical descriptions of instructional situations which might be encountered by teachers. The four alternatives were actions or interpretations which a teacher might use in response to the problem situation. Each of the responses was to be rated on a seven point scale ranging from extremely appropriate to extremely inappropriate. Thus, a total of 40 items were represented in the inventory. Twenty of the forty items or problem solutions were related to the principles advocated in the curriculum and instruction class so that an individual whose attitudes coincided with attitudes endorsed in that class would be expected to check those items as appropriate responses. The scoring key based on those items treated only these twenty items and ignored the other responses.

The measure of a subject's knowledge of the instructional principles was based on 27 items (examples of which are found in the Appendix) drawn from the midsemester examination taken by all subjects in the curriculum and instruction class. Intercorrelations were computed among the three measures and are presented in the results selection below.

Results

As a precursor to determining the relationships between variables, a simple frequency count of the observed use of the five instructional principles was computed. Table I includes the incidence with which each principle was observed by the pupil-accomplices. Some variation is found in the implementation of each of the instructional principles, with the exception of active response. As can be seen in Table I, all subjects were observed to employ active response in each of the lessons in which they participated.

TABLE I

Frequency of Observed Use of Instructional Principles Out of 192 Observations

Preassessment	126
Perceived Purpose	8
Active Response	192
Appropriate Practice	172
Knowledge of Results	186

The product-moment correlation coefficient between any pair of the measures involved in the pilot study reflected negligible relationships. The coefficients are presented in Table II.

TABLE II

Intercorrelations among 64 Subjects' Observed Use of, Attitude toward, and Knowledge of Five Instructional Principles.

Measures	r
Observed Use versus Attitude (IPPI)	-.07
Observed Use versus Knowledge	-.02
Attitude (IPPI) versus Knowledge	-.20

Reliability of Pupil-Accomplices

The index of the accomplices' ability to make reliable observations was the degree to which the pupils agreed with each other regarding the instructional behavior of the subjects.

Since each college student, separately, taught three accomplices, one would expect the three accomplice observations to be generally the same for any given subject. While the subject might change his behavior from one pupil to another with respect to one or two of the principles, it would be expected that their behavior would remain relatively consistent. Since 64 subjects were rated on five principles, a total of 320 possible instances of complete agreement among three accomplices existed. In 270 of these instances the accomplices were in agreement, that is, they either all indicated that the subject did use the principle or they all indicated that the subject did not use the principle. In only 50 instances was there disagreement between the three accomplices.

Discussion

Analysis of the pilot study's procedures and results suggested several weaknesses and, accordingly, revisions for the formal validation study. The primary deficiency was in the teaching task employed. By its very nature the teaching of spelling to young children reduced the variability among subjects with respect to how much they used particular instructional principles. As seen in Table I, out of 192 possible instances the active response principle was employed each time. Principles of appropriate practice (172) and knowledge of results (186) were employed almost as frequently. Conversely, perceived purpose was used only eight times. Thus, for four of the five principles, little variability in observed use existed. The resulting restriction in range of the observed use criterion could be expected to reduce, is not obscure completely, any relationship existing between the use criterion and the other two measures. A similar range restriction with respect to the 27 item knowledge test ($\bar{X}$ = 23.3, s = 1.08), undoubtedly contributed to this problem.

The extremely short teaching period (four minutes, 30 seconds) which had been set up to allow three pupil-accomplices to observe each subject probably contributed to the lack of variability also, particularly with respect to the perceived purpose principle. If a teacher has only a few minutes at his disposal, he probably cannot afford the luxury of insuring that his pupils perceive the purpose of the subject matter, particularly with respect to an "obviously" important task such as competence in spelling.

Several minor deficiencies were revealed, such as the cueing effect of having paper and pencils clearly available in each room, thereby inclining the subjects to have their pupils write the spelling words (appropriate practice).

The weaknesses detected in the pilot study were, hopefully, rectified in the formal validation study which will now be described.

THE FORMAL VALIDATION STUDY

The revised validity investigation was carried out during the 1964-65 fall semester. Many features of this study were identical to those of the pilot study, thus, only the differences between the two inquiries will be described in much detail.

Subjects

Fifty subjects were used in the study, all of whom were enrolled in a subsequent semester of the same required UCLA curriculum and instruction course as the subjects in the pilot study. As in the pilot study, subjects were given a small amount of extra credit for participating in what was ostensibly an "experiment in programmed instruction." All subjects were seniors and graduate students.

Pupil-Accomplices

Ten different pupils at the sixth grade level were used as pupil-accomplices. All pupils were enrolled in the University Elementary School at the University of California, Los Angeles and were selected by the school staff because of their probable cooperation and conscientiousness. The children

were quite comparable to those used the previous academic year during the pilot study. The end-of-training practice test situations revealed considerable accuracy and agreement among accomplices.

Pupil-Accomplice Training

Although, in the opinion of the project staff, the pupil-accomplice training sessions were considerably more polished, they were comparable to the procedures employed in the pilot project. The one important exception was that the nature of the teaching task had been altered. Accordingly, a slightly revised pupil-accomplice form was used. It may be noted below that, in an attempt to secure greater variability for the active response principle, a subject was to receive a "yes" check only if he had the pupil-accomplice respond "more than once." Following each instructional principle is the corresponding question which appeared on the revised accomplice observation form:

Preassessment: the entry competencies of the student are tested prior to initiation of the instruction.

> "Did the teacher pre-test you to find out if you already knew something about the topic?"

Perceived Purpose: the teacher attempts to promote the student's understanding of the value of the learning activity.

> "Did the teacher explain the importance of the topic to you?"

Active Response: the student is encouraged to make an intellectual, physical, or emotional response as a direct result of teacher action.

> "Did the teacher have you speak or write things about the topic more than once?"

Appropriate Practice: the student is given a chance to practice the behavior implied by the objective.

> "Did the teacher give you practice items like those on the test before giving you the test?" Orally or in writing.

Knowledge of Results: the teacher informs the student regarding the appropriateness of his response.

> "Did the teacher tell you whether your oral or written answers were right or wrong before he gave you the test?"

The Teaching Task

Because of the problems encountered in the pilot project, considerable attention was given to the selection of a teaching task which would not, of itself, serve to markedly restrict the variation among subjects with respect to their use of the five instructional principles.

Concepts from the field of sociology were chosen pertaining to folkways, mores, and undefined acts. A four page "handout" was reproduced for the subjects, along with a single page of instructions and a copy of the test to be used with the pupils. Copies of all three forms are included in the Appendix.

During training sessions the pupil-accomplices were instructed in the

content of the new teaching task so that they could attend more carefully to a subject's teaching behavior. Other slight variations in the pupil-accomplice observation forms were caused by the selection of the new task.

Subject Acquisition

The 50 subjects were secured in the same fashion as in the pilot study, that is, they were instructed that they would receive extra credit for participating as control subjects in a programmed instruction experiment. After signing up during a session of the curriculum and instruction course, all subjects received the set of materials mentioned above, namely, a participant instruction form, a four page description of the subject matter, and a copy of the test to be used with the pupils. The implication was made that a staff member of the Department other than the curriculum and instruction course instructor was conducting the project. In fact, extreme care was taken throughout both the pilot study and the formal validation study not to suggest to the subjects that the extra credit project was in any way connected with the curriculum and instruction class.

Procedure

In early December, three days after receiving their teaching materials, the subjects gathered at the University Elementary School according to a prearranged time schedule and proceeded to teach a pupil, supposedly as part of the imaginary programmed instruction experiment. Because of the excellent inter-accomplice agreement encountered during the pilot study, only one accomplice was used with each subject. This permitted a longer period of time for instruction, ten minutes, as well as somewhat less time pressure on the accomplices.

Otherwise, the procedure was identical to that employed in the pilot study with five accomplices being alternately used and rested each hour.

Measures

Once more a subject's observed use of the instructional principles was indexed by the number of Yes checks[4] which the accomplice marked. This could range from zero to five. In this instance, of course, only one pupil's observation was used rather than a summation of three accomplices as in the pilot study.

The Instructional Procedures Preference Inventory was used in Experimental Form II. This new version had two more four-answer problems (eight items) added to the 10 present in the earlier version to result in a total of 48 items. On the basis of factor analyses, several items had been changed so that 26 of the 48 responses were scored.[5] Since seven points were available for each item, based on a seven dimension scale of appropriateness, scores could range between zero and 182.

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[4] Oral or written appropriate practice were considered to represent one point.

[5] At the close of Experimental Form II of the IPPI, found in the Appexdix, a brief description of the scoring scheme is included.

The 27 item test of knowledge regarding instructional principles which was used in the pilot study was once again employed in the formal validation effort.

Analysis

Initially, as in the pilot study, the frequency of observed use of each of the five principles was calculated. Means and standard deviations of the three measures were then computed. Finally, intercorrelations among the observed use, attitude, and knowledge measures were calculated.

Results

In Table III the observed use results for each of the principles are presented. As can be seen from the table, there was considerably more variability on some of the principles than was seen in the pilot study. For instance, whereas in the pilot study only eight instances out of 192 possible uses of perceived purpose were seen, in the second study nine instances out of 50 possible were noted for perceived purpose.

TABLE III.

Frequency of Observed Use of Instructional Principles Out of 50 Observations

Preassessment	22
Perceived Purpose	9
Active Response	46
Appropriate Practice	35
Knowledge of Results	45

In Table IV the means and standard deviations of the three chief measures employed in the validity study are presented.

TABLE IV.

Means and Standard Deviations of 50 Subjects' Performance on the IPPI, Knowledge Test, and Observed Use Criterion

Measure	$\bar{X}$	s
IPPI	161.30	12.45
Knowledge Test	22.92	1.86
Observed Use	3.20	1.00

The principle result of the investigation, of course, revolved around the relationship, if any, between subjects' scores on the IPPI and their observed use of the principles regarding which the IPPI purportedly measured attitudes.

Intercorrelations among the IPPI, observed use criterion, and the knowledge test are presented in Table V.

TABLE V.

Intercorrelations among 50 Subjects Observed Use of, Attitude toward, and Knowledge of Five Instructional Principles.

Measures	r
Observed Use versus Attitude (IPPI)	.23*
Observed Use versus Knowledge	.13
Attitude (IPPI) versus Knowledge	.28**

* $p < .10$ (one tailed), ** $p < .05$ (two tailed)

Though modest, the relationship between IPPI scores and observed use of these five instructional principles was .23 which, consistent with the validy prediction of a positive relationship was significant beyond the .10 level (one tailed). The r between IPPI and knowledge test scores was .28 ($p < .05$, two tailed). An r of .13 was yielded for the remaining relationship between knowledge scores and the observed use criterion.

DISCUSSION

The principal result of this investigation is encouraging. In the formal validation study a positive relationship was detected between perspective student teachers' scores on the Instructional Procedures Preference Inventory and their subsequent use of the instructional principles, attitudes toward which are supposedly measured by the inventory. Although the correlation was low, only .23, it is in the predicted direction and, considering the relatively primitive state of the IPPI, augers well for further predictive validity research along this line. One suspects that with more refinement, an attitudinal measure such as the IPPI might be of considerable value in identifying teachers who would be pre-disposed to teach in a particular fashion.

Apparently the new teaching task selected for the second, formal validity investigation yielded the hoped for variability which was absent in the pilot study. The more reasonable correlation coefficients seen in the latter study are, quite probably, in part a function of this increased variance.

While the r of .28 between scores on the IPPI and scores on the knowledge test suggests the very plausible relationship between knowledge and attitude toward the same general construct, the fact that it is not markedly higher may be due in part to the fact that the IPPI is measuring something other than knowledge.

In both the first and second studies the value of using pupil-accomplices to investigate teacher behavior was affirmed. Of the 114 college seniors and graduate students who participated as subjects in the two studies, only one reported in response to subsequent questionnaires and interviews that he

suspected the possibility of artifice on the part of the accomplices.

The general conclusions of the writers is that (1) certain procedural elements of the present research may be of value to other investigators and (2) the potential value of attitudinal measures such as the IPPI in predicting teacher behavior is considerable.

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A P P E N D I X

EXAMPLES OF KNOWLEDGE EXAMINATION ITEMS

1. For the following item select the principle, if any, which the teacher clearly attempts to incorporate in the instructional activity. It is possible, of course, that no principle should be selected.

   A French teacher introduces a unit on French idioms by addressing the class with a series of ten English idioms, each of which understood as a whole clearly has a meaning different from that of the joined meanings of its component parts. Having given an idiom such as "What's up," she then points out what this means. She deliberately chooses idioms which are difficult for her class to interpret. She observes how individuals, unfamiliar with our language, would be confused by such expressions and that the student should learn French idioms in order to communicate effectively in French. The remainder of the period is devoted to the teacher's listing 25 common French idioms on the board, accompanied by the English translations. Students are instructed to copy the material from the board and to be prepared to take a brief quiz on the idioms next class period. The teacher tells the student that the quiz will be worth 25 points in making up the nine-week grades.

   A. Perceived Purpose
   B. Active Response
   C. Appropriate Practice
   D. Knowledge of Results

2. For the following item a phrase representing a learning principle will be presented along with descriptions of three teachers' action. Select the teacher who is most effectively utilizing the principle

   Principle: Active Response

   A. History Teacher A has a current events period each Friday during which one student presents a 20 minute oral report based on the week's news. The rest of the class is told to take careful notes on the report since the following Monday they are given a teacher-made ten question true-false quiz based on the report

   B. History Teacher B treats current events in a somewhat different fashion. Each Monday he gives the class a particular news topic, preferably an issue with at least two sides, such as the enrollment of James Meredith in the University of Mississippi. The class is told to watch the week's newspapers and other media so that on Friday they can discuss the topic. On Friday, the teacher serves as a moderator in a half-hour student discussion on the is issue.

   C. History Teacher C attempts to deal with controversial current events issues by soliciting the suggestions of students each Monday for "The Question of the Week." After a few moments of discussion regarding the most provocative and important issue, the question is selected and students are instructed to gather pertinent information during the week. Each student is to turn in on Friday a brief answer to the current events question along with reasons for his answer. A 15-20 minute teacher-moderated discussion is held after the papers are turned in.

PROGRAMMED INSTRUCTION PROJECT

Participant's Instructions

You have agreed to participate in a U.S. Office of Education sponsored research project in which you will serve as a "control" teacher in a study contrasting teaching machine instruction and conventional instruction. The subject matter is drawn from the field of sociology and is described in the attached material. You will teach one 10-12 year old pupil for a period of 10 minutes.

It is hoped that by involving many different teachers such as yourself, a cross-section truly representing conventional instruction will be produced. The commercial firm which produced the teaching machine sociology program insists that "no human teacher, regardless of competence, can even match the effectiveness of the programmed sociology materials, much less surpass them." So please teach the topic any way you wish, but try to teach it as well as you can so that a satisfactory control group performance on the examination will result.

Please report to the lobby of University Elementary School (off Sunset Blvd.) promptly at the time specified on the sign-up sheet. You will be directed to a small classroom or office and introduced to the pupil you are to teach. All pupils are regularly enrolled at UES and are participating voluntarily in the investigation. There will be no observer present during your teaching. You and the pupil will be in a private room. Please be assured that your pupil's examination score (the measure on which the conventional and programmed methods are to be compared) will not be reported to any instructor or placement official.

You will have a maximum of 10 minutes to teach your pupil. At the end of the instruction you should administer the attached test (on yellow paper) to the pupil who can have one or two minutes to complete it. There are no restrictions on how you should teach other than one: Do not give the test items to the pupil before the actual administration of the examination.

If you wish to receive a copy of the report describing the results of the programmed instruction experiment, please give your name and permanent mailing address on the slips provided for that purpose in the office of Dr. Theodore R. Husek, Area of Educational Psychology, in Moore Hall 300 (afternoon please).

The project staff thanks you sincerely for your cooperation.

REGULARITIES OR PATTERNS WITHIN CULTURE*

So-called "pressure" to conform to the ways of other people is evident to almost everyone, particularly to the young who in onerous ways experience one or another kind of "control" recurrently. Pressure to conform is no less strong for more mature people, but they, because of their maturity, usually are so thoroughly habituated to the patterns that the pressure is largely unnoticed except under unusual circumstances. Society contains numerous device to facilitate and assure conformity. Basically there exists a reward and punishment system--one is rewarded for doing the appropriate things and punished for doing the inappropriate things.

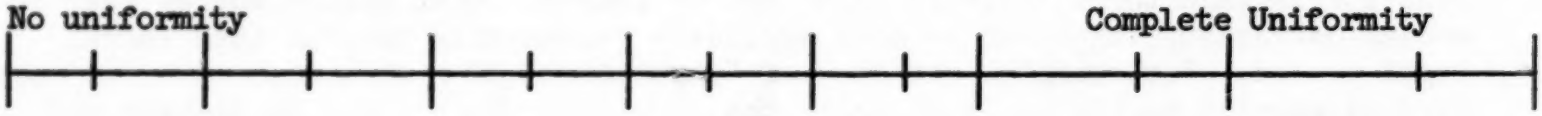
The individual is virtually powerless to resist indoctrination as he participates in his culture. He has few real choices as to the fundamentals in the pattern. He speaks the language which prevails, engages as a rule in the activities which he is supposed to, and acquires the knowledges, the prejudices, and the fears that are current. He seems bribed into conformity, coerced into being and doing what is expected.

It has been suggested by some writers, mostly not sociologists, that this molding of the person by his culture results in making a person a mere automation, that by virtue of the fact of cultural conformity man is "everywhere in chains." But is the figure of speech apt? Is one, because he speaks English and is a Christian, therefore enslaved? Or is he, by virtue of his participation in these cultural traditions, really more free to experience and enjoy many things which would otherwise be denied him? Persons who are irked by some behavior patterns which are required of them often react categorically against "culture," not realizing that they resent conformity only because they are also participating in another stream of culture which is different.

Conformity to the patterns of one's culture is, however, not complete; the person still has choices, even if only the choices among the several alternatives contained in the culture.

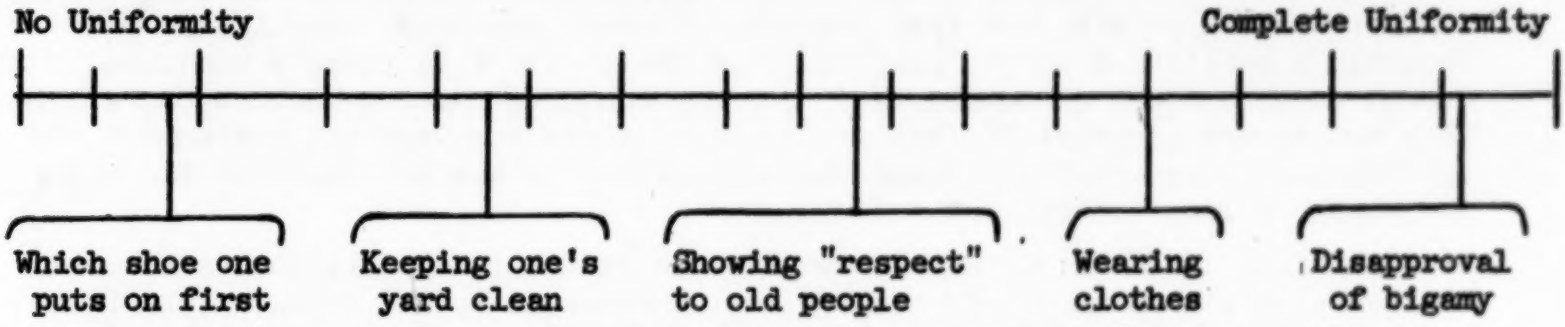
ALL BEHAVIOR NOT EQUALLY PATTERNED

The persons of a society do not behave identically, even though similarities are often marked. People in a given culture attach different degrees of importance to the various patterns of behavior. The situation may be graphically portrayed in the following way. Suppose one thinks of the following continuum, graduated into degrees like a thermometer or a speedometer, as representing the various degrees of uniformity in behavior among the persons in a society.



*John F. Cuber, Sociology: A Synopsis of Principles (New York, 1955), pp. 114-18.

One could, then, distribute the various behaviors of people along this continuum. Thus, the following items for contemporary urban Americans may be approximately located.



The location of the various items along the continuum is, of course, vary approximate. One cannot prove, for example, that showing "respect for one's elders" is 50 per cent more uniformly observed than is "wearing clothes." The basis for locating "respect for elders" is less uniform than "wearing clothes, other items, that is, "respect for elders" on the continuum is in relation to but presumably more frequently found than is "keeping one's yard clean." Thus, each of the many acts making up the mode of life can be placed somewhere along this continuum. The point to our discussion is not that it is possible or necessary to place every act in its precisely correct position, but that each act could be placed as soon as sufficient research were done. Many acts can be approximately placed without formal research, as in the above examples.

"FOLKWAYS," "MORES," AND "UNDEFINED ACTS"

Sociologists have attached the words mores, folkways, and undefined acts to certain ranges along this continuum.

1. Mores[1] are usually defined as the must-behaviors, the basic and important patterns of ideas and acts of a people. Monogamy, wearing clothes, and loyalty to the givernment, expecially in time of war, are illustrations of the mores. There may be some variations granted under a few "exceptional circumstances" which might arise, but on the whole these behaviors are said to be required if one is live in present-day American society without suffering disprivilege. Some of the mores are written down in the law and carry stipulated penalties to be imposed upon violators. Many of the mores are not so formally set forth, but observance of themis no less compulsive. Informal methods of enforcement consist of such patterns as ridicule, gossip, and ostracism by one's associates. Many persons' behavior is said to be "held in line" not by fear of legal action but by fear of social ostracism, which can be more seriously permanently harmful than formal legal action. For example, the loss of "reputation" of a physician is a far more serious penalty to him professionally than the fine which might be imposed for some malpractice. In one way or another, then, the society rigidly enforces some of its most important patterns of behavior--its mores.

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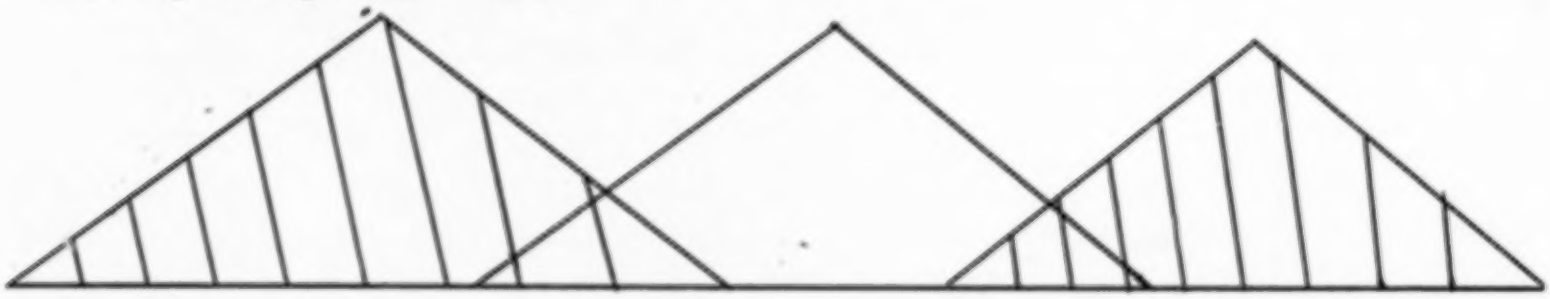
[1] The classic treatment of the concept mores appears in W. G. Sumner, Folkways (Boston, Ginn and Company, 1806). Sumner coined the phrase "mores have the authority of facts." The Sumerian concept has been subjected to considerable criticism.

2. Folkways are construed as somewhat less compulsive than the mores of the same society. Many of the folkways are not even really enforced, but rather are expected or taken-for-granted things which most persons within the society perform similarly, even though under no rigid requirement so to do. It will be observed, for example, that in most urban, middle-class, residential communities, Monday is recognized as "wash-day." The housewife is not under any legal or other pressure to wash the family's clothes on Monday. Instead, she lives among other housewives who generally observe that practice. It seems only natural to do likewise. Besides other activities in the week are so organized that to observe this day for this purpose fits better than some other arrangement. Other foldways may be somewhat more compulsive. For example, the appropriate clothing for students to wear to class, while somewhat varied from campus to campus and region to region, is more or less agreed upon. Should a woman appear in a long gown or a man in overalls, neither would probably be disprivileged in any official way for so doing, but both would constitute "bad taste," and the wearers would probably be regarded as somewhat eccentric or "queer." Perhaps some mild pressure would be imposed, like ridicule or laughing at them. But few would consider this to be a serious breach of the moral code, or consider taking formal action to punish the students involved. The point is best illustrated perhaps by the fact that cases like the above are very few. Persons rarely want to wear other than the appropriate clothes, do not consider very seriously wearing anything other than the regularly accepted clothing for the occasion. Such is the nature of the folkways.

3. Finally, some acts are regarded as outside the province of social dictation, and it is of no real concern to anyone else what one does. No one cares which arm goes into the coat sleeve first or whether one prefers his coffee with or without sugar. Such acts are regarded as in the realm of one's own preference; any way is socially acceptable. These are the culturally undefined acts.

RANGE ALONG THE CONTINUUM

In terms of the already familiar continuum, folkways, mores, and undefined acts may be represented thus"



Again, the range covered by each of these three terms is only approximate. It might be difficult to determine, for example, whether taking frequent baths constitutes a folkways or a mos (singular of mores). Is daily bathing required for social acceptability or is it "just the expected, natural thing to do?" The answer would vary from social class to social class; it would than be a "borderline case," somewhere between folkway and mos for the general community. But it

is still regarded as convenient to have the terms mores, folkways, and undefined acts for quick and approximate designation, even though the distinctions are not always clear-cut.

POSITION ALONG THE CONTINUUM VARIES WITH TIME AS WELL AS WITH PLACE

There is nothing final or permanent about the position of any specific act along the continuum we have just discussed. Behavior considered essential at one time may gradually lose its compulsion until eventually it becomes largely undefined. The history of woman's dress contains numerous illustrations. What would have been considered as "immoral, indecent exposure" in beach costume in 1900 is undefined and largely unnoticed conventional dress today. The reverse may also be true. Undefined acts and folkways may with the passing of time become regarded as increasingly important and hence "in the mores" of the group. At one time a person with a disease such as measles or whooping cough could come and go as he wished, whereas now he is required by both law and public opinion to remain isolated so that he will not infect others. The history of morals contains numerous examples of radical shifts in the societal definition of various acts.

SOCIOLOGY TEST

Pupil's Name _____

Directions: Classify as Mores, Folkways, or Undefined Acts each of the 10 statements below by writing an M, F, or U in front of each statement.

_____ 1. Wearing a bathing suit in the market.

_____ 2. Wearing a bow tie or a long one.

_____ 3. Your wrist watch doesn't have a "second" hand.

_____ 4. An 8 year old wears lipstick.

_____ 5. You subscribe to Life not Look.

_____ 6. You kill a man.

_____ 7. You purposely don't feed your cat.

_____ 8. You hit your teacher.

_____ 9. Your wife doesn't wear a wedding ring.

_____10. You throw your garbage on your lawn instead of in the disposal.

INSTRUCTIONAL PROCEDURES PREFERENCE INVENTORY

Experimental Form II

Directions:

This inventory consists of a series of briefly described hypothetical instructional problems followed by four alternative actions or interpretations which a teacher might use in response to the problem situations. None of the actions are intrinsically "right" or "wrong" in the usual sense of these terms. Instead, each alternative reflects a different preference which a teacher might have in dealing with an instructional situation.

You are asked to judge each of the alternatives on an "appropriateness" continuum, ranging from highly appropriate to highly inappropriate. First, read each problem description, then respond to each of the four alternatives following the problem according to the following scheme:

A: Extremely Appropriate
B: Very Appropriate
C: Appropriate
D: Acceptable
E: Inappropriate
F: Very Inappropriate
G: Extremely Inappropriate

There can be more than one answer of a particular kind for each problem. For example, there might be three alternatives which you would judge to be Extremely Appropriate for a single problem. You should mark an "A" for each of these alternatives on the answer sheet.

Remember, there are no right or wrong answers, so please judge the alternatives in a manner that really reflects your own preferences. Do not answer as you think someone would want you to, but be as candid as possible.

Problem I

A class of junior high school students have performed "miserably" on a unit English literature examination, scoring well below what the teacher expected of them.

1. The teacher should try to stimulate the students to study more intensely for the next unit by giving a large proportion of D's and F's on the examination.
2. The teacher should re-evaluate the nature of his instructional behavior, for it may well be that teaching deficiencies have been revealed by the poor performance of the class.
3. When teaching the same unit next year, the teacher should probably allow the students more opportunity to discover the important meanings of the literature unit themselves, for only through such student initiated activity will real insights be developed.
4. The teacher may have to reconsider how well the students should do on the unit, for his expectations may be too high.

Problem II

An eleventh grade social studies teacher reads in the school district's instructional guide that a required objective for the first unit of the year

is that "the students become familiar with the European roots of our democratic system of government."

5. The teacher should initiate the unit by carefully communicating to her eleventh grade pupils why the study of this topic is important.

6. The teacher should devise a number of different learning activities which are presented to the class in a consecutive series. This is done so that the pupils can develop the desired familiarity in a way consistent with their individual abilities and interests by more or less "tuning in" on the activities which appeal to them.

7. The teacher should make the objective more explicit.

8. The teacher should begin preparing lecture notes from which to launch lecture-discussion sessions--coupled with the use of whatever relevant audio-visual materials can be assembled.

Problem III

A teacher has found that after systematically planning a unit's instructional activities to accomplish three specific objectives, students do "too well" on the unit test which reflects achievement of these objectives. In fact, almost all of the students score 100 per cent on the test.

9. The teacher should give extra optional assignments to those students who wish to receive an "A" on the unit, otherwise all students who attained 100 per cent should be given a high "B".

10. The teacher should re-examine the proficiency standards he has set for his students because the possibility exists that the standards should be increased.

11. The teacher should consider adding objectives to the unit beyond the three which are already present.

12. The teacher is obliged to give all students an "A" on the unit.

Problem IV

One objective which a history teacher has for a unit in his tenth grade class is that the pupils should be able to identify from a series of written hypothetical court cases those which revolve primarily around the interpretation of the U.S. Constitution.

13. The teacher's objective is too specific and less important than it should be, so the teacher should attempt to broaden it and make it more meaningful.

14. The teacher should develop a series of short practice exercises which require the students to make the kinds of identifications suggested by the objective.

15. The teacher should require the students to prepare two hypothetical court cases of their own, one which relates directly to the constitution and one which does not. These written descriptions should be turned in and carefully evaluated by the teacher.

16. The teacher should, at the beginning of the unit, permit the students to choose the major sections of the constitution which the class will study and, accordingly, the kinds of court cases which are relevant to these sections.

Problem V

A history teacher has treated the topic of the Revolutionary War for the past three weeks in her eleventh grade class. Students have taken an examination covering the important considerations of the unit and have performed "beautifully. The students really displayed excellent insights into important aspects of the war.

17. The teacher should feel some satisfaction, for while a few students did not perform up to expectations, the majority performed far better than hoped. Thus, the teacher may attribute most of their success to her instructional activities during the unit.

18. The teacher should be thankful for the fine instruction that her students undoubtedly received on this topic when they were in elementary school and junior high school.

19. The teacher should examine the quality of her examination, for the exam is apparently too easy. Perhaps some of the items can be made more difficult.

20. The teacher should not be too pleased at the results since there was no pre-test of the student's knowledge regarding this topic. It may be that she taught them very little beyond what they already knew.

Problem VI

In a required junior high school English class the instructor gives frequent essay examinations regarding the meaning of the textbook literature selections. Although time-consuming, for the grading of these essays usually takes two or three evenings, he believes that such testing has a great educative value. However, some students complain that by the time their tests are returned, they have forgotten the nature of the literature selections.

21. The teacher should give fewer tests of an essay nature, possibly substituting objective, multiple choice tests for all of the essay examinations.

22. The teacher should require the class to re-read the literature selection (on which the test was based) for the class period when the tests will be returned.

23. The teacher should, after collecting the test papers, briefly described the kinds of responses which would receive full credit. This should always be done on the day of the test, so that students can judge the correctness of their answers.

24. The teacher should remind the students that the only way to really learn something is by thinking about it, so they should try more diligently to recall the nature of the literature selections after the corrected tests have been returned.

Problem VII

A biology teacher wants his students to develop understanding of the nature of four theories of evolution regarding the development of higher forms of life. He has set aside a two week period of time for this topic early in the semester.

25. The teacher should first describe the kinds of student behavior that reflect understanding of the topic.

26. The teacher should plan to carefully communicate to the students why this topic is important to them.

27. The teacher should carefully analyze the four theories and organize the material so that students will encounter the least difficult theory first, then the next most difficult theory, and so on.

28. The teacher should secure a number of film strips and slides illustrating less complex, then more complex forms of life--to be used for purposes of explicating the theories.

Problem VIII

A mathematics teacher has been assigned a general math class in which she finds students enrolled who have failed to reach a required score on a school-wide arithmetic proficiency examination. After several months of the semester have elapsed, she finds the class extremely apathetic in its performance. Although a few students show some interest in her instruction, most seem very bored.

29. The teacher should remind the students that if they fail to perform well on class examinations, they will fail the course and be required to repeat it. This should instill increased motivation in most of the students.

30. The teacher should, insofar as the situation permits, try to give different assignments to students according to their particular mathematical deficiencies.

31. The teacher should develop schemes for showing the students how valuable arithmetic skills will be to them, not in abstract terms, but in ways that will make the students see real personal value in improving their mathematics proficiency.

32. The teacher should call in a series of guest lecturers who will undoubtedly approach the topic of mathematics in a different fashion than she does. Such variety and change of pace will prove stimulating to the pupils.

Problem IX

A men's physical education teacher wants his students at the conclusion of a unit on field hockey to be able to identify, during actual play, rule infractions.

33. The teacher should try to get the boys playing field hockey as soon as possible, for in this way they will themselves discover the need of knowing when rules have been violated.

34. The teacher should first give the boys mimeographed descriptions of the 15 most important field hockey rules and require that they be memorized. It will then be possible for the students to apply these memorized rules when they begin to play the game later.

35. The teacher should inform the boys of the im tant rules through a lecture and a mimeographed sheet describing the les. Then some experienced

field hockey players should "role play" so that they violate, at given times, all of these rules. The class should be required to observe, then participate in this activity and to practice identifying rule infractions.

36. The teacher should attempt to specify how well the students should perform with respect to the identification behavior. In other words, he should attach a minimum standard to his objective.

Problem X

A junior high school social studies teacher has noted that during the past few days her class seems bored with her presentation of what she believes are important notions regarding our economic system. Students are frequently seen to read other books during her lectures and when she occasionally asks a question of certain students, they often respond in a way that indicates they have been daydreaming.

37. She should re-design her instructional activities so that students are more actively involved in the learning enterprise, perhaps by posing very frequent questions, possibly rhetorical, for the class.

38. She should indicate to the students that they will certainly be tested on the material she is covering and that they should pay more careful attention to the material.

39. She should attempt to show the class why the topic she is treating is really important to them. The more personalized this can be, the better, for the students will then tend to increase their attentiveness to the instruction.

40. The teacher should single out one of the inattentive students and verbally chastise him for his behavior. By using the youngster as an example, she will stimulate the rest of the class to become more interested in the topic.

Problem XI

A substitute teacher has been called in to teach five 10th grade social studies classes for a week. Because of the regular teacher's haste to depart for family illness, the only message the substitute teacher had is that she should begin a one week unit dealing with the United Nations.

41. The substitute teacher should attempt to determine how much the students already know about the United Nations by pre-testing them on the first day and adjusting subsequent instruction accordingly.

42. The substitute teacher should develop some rather explicity objectives regarding what she wants the students to be able to do at the conclusion of the week that she will have them.

43. The teacher should, early in the week, attempt to show the students why the study of the United Nations is important to them.

44. The substitute teacher should devise a series of explicit objectives for the class and then provide opportunities for the class to behave in the fashion suggested by the objectives.

Problem XII

An elementary school teacher has been assigned to a class which is noted for its poor discipline. Early at the beginning of the school year she decides that one of her principal goals will be to improve the behavior of the students in the class.

45. She should "lay down the law" right away by vigorously punishing any student misbehavior during the early weeks of the course.

46. The teacher should try to specify behavioral manifestations of proper control on the part of the students so that she can work toward improvement along those lines.

47. The teacher should develop some criteria of good pupil behavior and then deliberately sample their behavior early in the year so that she can, in a sense, pre-test them. By this technique she should subsequently analyze their conduct to see how well they behave at the end of the year.

48. The teacher should make certain to provide the students with a notion of the appropriateness of their responses, that is, she should let them know whether she views their behavior as correct or incorrect.

(Scoring Key: The IPPI items below are scored according to the following scheme: A=7, B=6, etc. Items number 2, 4, 5, 7, 10, 11, 14, 19, 20, 21, 23, 25, 26, 27, 30, 31, 35, 36, 37, 39, 41, 42, 43, 46, 47, 48 presumably measure attitude toward selected instructional practices.)